



COLORADO DEPARTMENT OF HIGHER EDUCATION

# Statewide Transfer Articulation Agreement *in*

Chemistry



## Chart Your Career Course

There is more than one path to a fulfilling career, and the road to a bachelor's degree can start at a community college. Colorado's public colleges and universities have created a seamless transfer process that makes it easy and stress-free for you to design an education journey that will meet your needs. Select a 60-credit Associate of Arts (AA) or Associate of Science (AS) degree with Designation (DwD) program that aligns with your interests, with the guarantee that it will put you on the fast track to graduation if you choose to pursue a bachelor's degree.

## CHEMISTRY

## Introduction

From the shampoo we wash our hair with to the pest control products used in the fields where our food is grown, the work of chemists is a part of our daily lives in a multitude of ways. Chemistry is the study of different types of matter and how they interact with one another to create new substances. If you enjoy coming up with theories and testing them, a Chemistry program will give you the tools to turn your interest in experimentation into a career path. In addition to learning chemical principles and processes in the classroom, you will spend time in the lab, developing methods for how to ask the right questions, identify patterns, draw conclusions, and solve problems. A Chemistry degree can be applied to careers in several fields, including chemical engineering, pharmacy, environmental science, agriculture, and engineering

An associate degree in Chemistry can be the first step toward many professional roles, including food chemist, pharmaceutical sales representative, quality control manager, and toxicologist. This degree is transferable to universities offering a bachelor's degree in Chemistry.

### Degree Pathway

The first year of a Chemistry program will include math and English courses to meet general education requirements. The completion of introductory math and English courses in your first year is proven to greatly increase the likelihood of crossing the graduation stage, boosting your momentum along the academic pathway you select. Other general education courses on your pathway will cover topics in Arts and Humanities, History, Social and Behavioral Sciences, and Natural and Physical Sciences.

Program-specific courses may begin as soon as your first semester. These courses will become more advanced as you move along your degree pathway. Through this sequence of courses, your knowledge of chemical processes and experimentation practices will grow and deepen. Coursework will include Calculus, Calculus-Based Physics, and Organic Chemistry. After completing a 60-credit associate degree, your degree pathway can continue with guaranteed transfer to a college that offers bachelor's degrees.

### Knowledge & Skills

- Chemical processes
- Observation skills
- Experimentation methods
- Laboratory safety
- Math skills
- Critical thinking
- Problem solving
- Collaboration

## Participating Institutions

### Earn an Associate Degree with Designation (DwD)

*From one of these Colorado public community/junior colleges*

**Aims Community College** [A.S. Chemistry]

**Arapahoe Community College** [A.S. Chemistry]

**Colorado Mountain College** [A.S. Chemistry]

**Community College of Aurora** [A.S. Chemistry]

**Community College of Denver** [A.S. Chemistry]

**Front Range Community College** [A.S. Chemistry]

**Northeastern Junior College** [A.S. Chemistry]

**Otero College** [A.S. Chemistry]

**Pikes Peak State College** [A.S. Chemistry]

**Pueblo Community College** [A.S. Chemistry]

**Red Rocks Community College** [A.S. Chemistry]

### Earn a Bachelor's Degree

*From one of these Colorado public four-year institutions*

**Adams State University**

[B.S. Chemistry]

**Colorado Mesa University**

[B.S. Chemistry]

**Colorado State University-Ft Collins**

[B.S. Chemistry]

**Colorado State University-Pueblo**

[B.S. Chemistry]

**Fort Lewis College**

[B.S. Chemistry; Chemistry option]

**Metropolitan State University of Denver**

[B.A./B.S. Chemistry]

**University of Colorado Boulder**

[B.A. Chemistry]

**University of Colorado Colorado Springs**

[B.A./B.S. Chemistry]

**University of Colorado Denver**

[B.S. Chemistry]

**University of Northern Colorado**

[B.S. Chemistry; Biochemistry, Chemistry, Forensic Science, Industrial Chemistry, Pre-Health emphases]

**Western Colorado University**

[B.A. Chemistry; General Chemistry, Biochemistry emphases]

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## Prescribed Curriculum

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Required Courses that Fulfill General Education Requirements*				30 CREDIT HOURS
	Credit Hours	Community College Course No.	Course Title or Category	
<b>(Written) Communication</b>	6	ENG 121/1021 and ENG 122/1022 <b>OR</b> ENG 122/1022 and a GT Pathways CO3 course	English Composition I ( <a href="#">GT-CO1</a> ) and English Composition II ( <a href="#">GT-CO2</a> ) <b>OR</b> English Composition II ( <a href="#">GT-CO2</a> ) and a GT Pathways CO3 course ( <a href="#">GT-CO3</a> )	
<b>Mathematics</b>	5	MAT 201/2410	Calculus I ( <a href="#">GT-MA1</a> )	
<b>Arts &amp; Humanities</b>	3		One GT Pathways Arts & Humanities course ( <a href="#">GT-AH1</a> , <a href="#">GT-AH2</a> , <a href="#">GT-AH3</a> , <a href="#">GT-AH4</a> )	
<b>History</b>	3		One GT Pathways History course ( <a href="#">GT-HI1</a> )	
<b>Social &amp; Behavioral Sciences</b>	3		One GT Pathways Social & Behavioral Sciences course ( <a href="#">GT-SS1</a> , <a href="#">GT-SS2</a> , <a href="#">GT-SS3</a> )	
<b>Natural &amp; Physical Sciences</b>	5	CHE 111/1111	General College Chemistry I w/Lab ( <a href="#">GT-SC1</a> )	
	5	CHE 112/1112	General College Chemistry II w/Lab ( <a href="#">GT-SC1</a> )	
Additional Required Courses				29 CREDIT HOURS
Content Area	Credit Hours	Course No.	Course Title	
<b>Mathematics</b>	5	MAT 202/2420	Calculus II ( <a href="#">GT-MA1</a> )	
	4	MAT 203/2430	Calculus III ( <a href="#">GT-MA1</a> )	
<b>Physics</b>	5	PHY 211/2111	Physics: Calculus-based I w/Lab ( <a href="#">GT-SC1</a> )	
	5	PHY 212/2112	Physics: Calculus-based II w/Lab ( <a href="#">GT-SC1</a> )	
<b>Organic Chemistry**</b>	5	CHE 211/2111	Organic Chemistry I w/Lab	
	5	CHE 212/2112	Organic Chemistry II w/Lab	
<b>Electives</b>				<b>1 CREDIT HOUR</b>
<b>Total</b>				<b>60 CREDIT HOURS</b>

**\*Notes:**

1. This statewide transfer articulation agreement in Chemistry does not fulfill requirements for the GT Pathways general education curriculum or the Associate of Science degree prior to transfer; however, this agreement does guarantee a student, if admitted, junior standing and completion of the baccalaureate degree within an additional 60 semester hours at the receiving institution.
2. Completion of the receiving institution's lower division general education requirements is fulfilled only under the condition that one GT Pathways-approved course in arts and humanities (AH1, AH2, AH3, or AH4) and one GT Pathways-approved course in social and behavioral sciences (SS1, SS2, or SS3) are successfully completed at the receiving institution within the first 30 hours or 12 calendar months.

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3. Students transferring to a four-year college/university under this Chemistry agreement are encouraged to 'reverse' transfer the one GT Pathways course in arts and humanities and the one GT Pathways course in social and behavioral sciences (Note #2 above) back to their community college in order to complete the GT Pathways general education program and to earn their Associate of Science degree with a Chemistry designation.

\*\*Lecture and laboratory portions of Organic Chemistry, CHE 211/2111 and 212/2112, must not be taken in an online delivery format.

## CHEMISTRY

# Course Planner

## CHEMISTRY DEGREE PLAN

STUDENT NAME

Institution:				
Semester	Course No.	Course Title	Credit Hours	Completed
<i>Total Credits Completed</i>				

Institution:				
Semester	Course No.	Course Title	Credit Hours	Completed
<i>Total Credits Completed</i>				

Institution:				
Semester	Course No.	Course Title	Credit Hours	Completed
<i>Total Credits Completed</i>				

Institution:				
Semester	Course No.	Course Title	Credit Hours	Completed
<i>Total Credits Completed</i>				

# Contractual Language

## INTRODUCTION

A statewide transfer articulation agreement identifies the community college courses students need to take in order to graduate from a community college with a 60-credit Associate of Arts (AA) or Associate of Science (AS) degree with designation (DwD). Students are responsible for informing the admissions counselor or transfer advisor at their receiving four-year institution that they are completing a DwD.

It is important for students to understand that completion of an AA or AS degree within two years requires them to complete an average of 15 credits per semester (or 30 credits per year). Also, research shows that students who take classes in their major area within their first 30 credit hours are more likely to persist and graduate.

The guarantees and limitations below describe the minimum requirements to which all participating institutions have agreed. Students who believe an institution is not meeting the guarantees described below can file a complaint with the [CDHE](#).

## GUARANTEES

**Please note that this statewide transfer articulation agreement in Chemistry neither fulfills the graduation requirements for the AS degree nor the GT Pathways general education curriculum. Not completing the GT Pathways general education curriculum and the AS degree alters the standard guarantees afforded to community college students when compared to other statewide transfer articulation agreements. However, this Chemistry transfer articulation agreement is designed to provide the guarantees at the time of transfer.**

Students who complete a DwD pursuant to the prescribed curriculum in this statewide transfer articulation agreement **and** pass all 60 credits with a C- or higher **and** are admitted to the receiving institution's corresponding degree program (see cover page) are guaranteed the following:

1. Junior standing with no more than 60 remaining credits to meet the graduation requirements for the baccalaureate degree program covered by this articulation agreement.
2. Completion of the receiving institution's lower division general education requirements as defined by the GT Pathways curriculum.
3. The same graduation requirements as students who begin and complete this degree program at the four-year institution.
4. Admission to all Colorado public baccalaureate awarding institutions (*except* Colorado School of Mines) is guaranteed to applicants who have completed any AA or AS degree from a Colorado public two-year institution after high school graduation, provided certain requirements are met. To see these requirements, please refer to the Colorado Commission on Higher Education's [Admissions Standards Policy](#), section titled "Guaranteed Transfer Admissions" [here](#). Please note: Students transferring to a University of Colorado institution (Boulder, Colorado Springs, Denver) must satisfy the CU System's MAPS (Minimum Academic Preparation Standards) requirement.
5. Per the Commission's [Prior Learning Assessment](#) policy, section 2.07, and pursuant to Colorado Revised Statutes §23-1-108 (7)(b)(II)(A), "a state institution of higher education that admits as a junior a student who holds an associate of arts degree, associate of applied science degree, or associate of science degree that is the subject of a statewide degree transfer agreement shall not require the student to complete any additional courses to fulfill general education requirements", and that the receiving institution of higher education is responsible for the total cost of tuition "for any credit hours that exceed the total credit hours required for a native student or that extend the total time to receive the degree beyond that required for a native student".
6. The Commission's Prior Learning Assessment policy also states "every Colorado public institution of higher education shall accept in transfer from within the institution and from other state institutions of higher education prior learning assessment credit awarded for GT Pathways requirements" (section 3.01), and "Colorado public institutions of higher education shall not prohibit students from meeting general education/GT Pathways requirements with prior learning assessment credit" (section 3.02).

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## LIMITATIONS

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1. Students must meet all admission and application requirements at the receiving institution including the submission of all required documentation by stated deadlines. Students are advised to consult with the Office of Admissions at the institution to which they intend to transfer.
2. Only courses with grades of C- or higher are guaranteed to transfer.
3. Admission to a receiving institution does not guarantee enrollment in a specific degree program. Some programs at receiving institutions have controlled entry due either to space limitations or academic requirements.
4. The credit and course transfer guarantees described in this agreement apply to the specific degree programs covered by this agreement (see cover page). If the student changes majors, receiving institutions will evaluate application of the courses designated in this agreement to other degree programs on a course-by-course basis.
5. Students are allowed to use credits awarded by exam, such as AP (Advanced Placement) and IB (International Baccalaureate), as long as those exams are listed on the exam tables [here](#), or may use challenge exams to fulfill GT Pathways requirements (not necessarily major requirements) and those credits are guaranteed to transfer and apply to GT Pathways requirements at the receiving institution per the Colorado Commission on Higher Education's Policy I, X: Prior Learning Assessment. See the [entire policy](#) for more information.
6. The receiving institution shall accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis.
7. All the courses a student needs to take in the associate degree program covered by this statewide transfer articulation agreement are listed in the prescribed curriculum. Course substitutions are allowed as long as the student and both the sending and receiving institutions agree to the substitution; such agreement should be documented in writing and the student should keep a copy until the baccalaureate degree is conferred. Note that if students substitute a course, then this is no longer a statewide agreement and some of the guarantees are only for the receiving institution that agreed to the substitution. **Any additional courses taken in the discipline covered by this agreement might not count toward the requirements of the major at the receiving institution.** Students can avoid this problem by taking no more courses in the discipline beyond those identified in the prescribed curriculum. STUDENTS SHOULD CONSULT THE PROGRAM ADVISOR AT THE RECEIVING INSTITUTION FOR GUIDANCE. Any advisement from an academic advisor should be obtained IN WRITING.
8. Students seeking K-12 teacher licensure may not use this agreement because teacher preparation programs have different requirements for educator licensure.

*Because of the limitations above, students must consult with the Office of Admissions at the institution to which they are transferring.*

## Addendum to Agreement

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Students who do not complete an AA/AS degree can use the prescribed curriculum in a statewide transfer articulation agreement as a common advising guide for transfer to all public institutions that offer the designated bachelor's degree program.

Please note the following:

1. Students are guaranteed application of general education courses completed with a C- or higher in the prescribed curriculum in this agreement up to the established maximum in each GT Pathways content area.
2. Except in special cases (e.g., the partial completion of a required sequence of courses or variation in the number of credit hours institutions award for course equivalents), students can expect that courses specified within the prescribed curriculum in this agreement, successfully completed with a C- or higher, will fulfill the relevant course requirements in the designated major.
3. Receiving institutions will evaluate all courses other than those specified in this agreement on a course-by-course basis.

Students transferring without a completed AA/AS degree must consult with the Office of Admissions at the institution to which they are transferring to review the issues identified above, and to make sure they meet all admission and application requirements at the receiving institution, including the submission of all required documentation by stated deadlines.

This agreement will be reviewed by disciplinary faculty no less frequently than every five years. *The agreement will remain in force until such time as it is formally modified or terminated.*

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The Department of Higher Education – in consultation with the General Education Council – may make minor technical changes to this agreement on behalf of participating institutions. The most current version of the agreement can be found on the [CDHE website](#). Institutions that wish to join or withdraw from this agreement should consult the Division of Academic Affairs at the Colorado Department of Higher Education. Terms and processes are outlined in the Commission’s policy on Statewide Transfer and GT Pathways, available at the [CDHE website](#).

A paper or hard copy of this document may not be the most current version of the agreement — check the [website](#) of the Colorado Department of Higher Education for the most current version.

*Signatures from institutional/system Chief Academic Officers for all participating institutions, as listed on the cover page, have signed this agreement. Signatures of Chief Academic Officers, who possess or have been delegated authority to enter into this agreement on behalf of their institution or institutions (in some cases by the institutional or system governing board), are on file in the Division of Academic Affairs at the Colorado Department of Higher Education.*

## CHEMISTRY

**COLORADO**  
Department of  
Higher Education

Prepared by the Colorado Department of Higher Education  
under the Executive Leadership of Dr. Angie Paccione.

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*In partnership with Colorado Institutions of Higher Education*

**HISTORY OF REVISIONS TO AGREEMENT:**

- 2014-12-04 – Approved by CCHE.
- 2016-08 – Cover page revised: added only CCs who are participating and degree titles; some formatting adjustments.
- 2016-12 – Formatting edits made.
- 2017-01 – Formatting changes made to cover page; paragraph 9 added to Limitations section; removed teacher licensure paragraph in Prescribed Curriculum; added updated Addendum to Agreement section.
- 2017-03 Revisions made to Introduction, Guarantees, and Limitation sections.
- 2018-12 – Revisions made to Introduction and Limitations sections. Paragraphs 5 & 6 added to Guarantees section to reflect changes made to CCHE Prior Learning Assessment policy.
- 2021-06 – Participating institutions revised: updated name for Otero College.
- 2022-03 – Effective Summer 2022, all CCCS course numbers are 4-digits; updated prescribed curriculum to reflect both original 3-digit and new 4-digit course numbers.
- 2022-08 – Participating institutions revised: updated name for Pikes Peak State College.